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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/726,506	12/04/2003	Eric Lemaire	612.43268X00	7171
20457	7590	02/17/2006		
ANTONELLI, TERRY, STOUT & KRAUS, LLP 1300 NORTH SEVENTEENTH STREET SUITE 1800 ARLINGTON, VA 22209-3873			EXAMINER DOERRLER, WILLIAM CHARLES	
			ART UNIT	PAPER NUMBER
			3744	

DATE MAILED: 02/17/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/726,506	<b>Applicant(s)</b> LEMAIRE ET AL.	
	<b>Examiner</b> William C. Doerrler	<b>Art Unit</b> 3744	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on the 12-14-2005 which uses the 11-14-05.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-6, 8, 9 and 11-15 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3, 8, 9 and 11-15 is/are rejected.
- 7) ☒ Claim(s) 4-6 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Priority*

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

### ***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-3, 8, 9, and 11-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 6102987 (Gross et al.) in view of US 2002/0062735 A1 (Lecomte et al.).

3. Gross et al. disclose a process for treating a natural gas containing hydrocarbons, hydrogen sulfide and water comprising contacting the gas to be treated with a physical solvent in an absorber 2 so as to obtain a liquid effluent in stream 8 and a treated gas 7 depleted in hydrogen sulfide. See column 4, line 38 to column 5, line 11. Gross et al. expressly disclose that the absorption with said physical solvent occurs at a temperature between -20 degrees C to 40 degrees C, preferably -15 degrees C to 30 degrees C, and at a pressure as low as 10 bar (= 1 MPa). Gross et al. further disclose that said physical solvent could comprise water at below 50% by weight. See column 4, lines 38-58. The effluent stream 8 is subsequently heated in heat exchangers 9-11 so as to obtain a mixed effluent containing liquid and gas phases at

Art Unit: 3744

vessel 12 prior to being fed to column 18, considered equivalent to a distillation column, where a regenerated solvent 24 is obtained. Gross et al. fail to disclose that the natural gas is first cooled so as to condense water and to recover a gaseous effluent, which is then distilled to obtain a liquid phase and a gas phase, said gas phase being cooled so as to obtain a condensate and a gaseous effluent depleted in hydrogen sulfide and in water. Gross et al. further fail to disclose that the gaseous effluent depleted in hydrogen sulfide and in water is maintained at a temperature ranging from -100 degrees C to 30 degrees C and at a pressure above 1 Mpa abs. Lecomte et al. teach a method for pretreating acidic natural gas containing hydrogen sulfide comprising the steps of cooling the 'natural gas in heat exchanger 102 so as to condense water and to recover a gaseous effluent. See paragraph (0054). The gaseous effluent is distilled in column 14 obtaining a liquid phase and a gas phase. See paragraph (0055). The gas phase is then cooled by heat exchangers 16, 18, and 19 to obtain a condensate and a gaseous effluent depleted in hydrogen sulfide and in water, the gaseous effluent being at a temperature between -100 degrees C and 30 degrees C and at a pressure above 1 Mpa abs. See paragraphs (0057) and (0058). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the process disclosed by Gross et al. to include the method of pretreating acidic natural gas taught by Lecomte et al. because the pretreating method explicitly eliminates water and some of the acidic hydrogen sulfide from the natural gas, which are both undesired impurities.

***Allowable Subject Matter***

Claims 4-6 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Response to Arguments***

Applicant's arguments filed 12-14-05 and 11-14-05 have been fully considered but they are not persuasive. The amendment to the claims fail to make claim 1 allowable. Gross teaches an acid gas concentration between 10 and 90%, which applicant's claimed range will be contained within. Gross also shows the physical solvent being in applicants' claimed range. Lecomte is relied upon to show the physical solvent in applicant's claimed temperature range. While Gross states that his invention may be used for an acid gas concentration up to 90%, a portion of this (20% or more) is carbon dioxide. Line 23 of column 3 states that at least 3% of the gas is hydrogen sulfide. While this is easily extended to applicant's claimed range, if one of ordinary skill in the art were to desire hydrogen sulfide removal from a stream containing high concentrations of hydrogen sulfide, one would look to combine known processes. This is the rationale for combining Gross and Lecomte. Lecomte would be used to keep the feed in the hydrogen sulfide concentration desired by line 23 of column 3. Since both systems are known, it would have been obvious for an ordinary practitioner in the art to combine them to ensure adequate removal of hydrogen sulfide from a feed with high concentrations of hydrogen sulfide.

***Conclusion***

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to William C. Doerrler whose telephone number is (571) 272-4807. The examiner can normally be reached on Monday-Friday 6:30-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cheryl Tyler can be reached on (571) 272-4834. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



William C Doerrler  
Primary Examiner  
Art Unit 3744

WCD